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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,891	07/26/2001	Jonnathan H. Kim	TDCO:006	7295

7590 08/28/2002

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EXAMINER

ALSOMIRI, ISAM A

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,891

Applicant(s)

KIM, JONNATHAN H.

Examiner

Isam A Alsomiri

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-16, 20-25, 42-78, and 52-57 is/are rejected.
- 7) ☒ Claim(s) 8-10, 17-19, 26-41, 49-51 and 58-60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Copy of original PTO-326

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- 6) ☐ Other:

DETAILED ACTION

Response to Preliminary Amendment

This action is a replacement for the office action mailed on 04 August 2002, the preliminary amendment filed on 30 July 2002 has been entered. The **period of reply** is reset to begin from the mailing date of this office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-15, 20-24, and 52-56 are rejected under 35 U.S.C. 103(b) as being anticipated by Fullerton. Referring to claims 11, 20, and 52, Fullerton teaches transmitting a radio-frequency pulse in a multipath propagation medium (see col. 4 lines 59-65), receiving a plurality of pulses (see col. 5 lines 8-12), discriminating using a detector, a first pulse in the plurality of pulses from the noise floor (see col. 12 lines 1- 7). Furthermore, it is inherent to have circuits for transmitting, receiving, and detecting.

Referring to claims 12-13, 21-22, and 53-54, Fullerton teaches correlating the received pulse with the decode signal to output a baseband signal, which reads on the claimed a correlator circuitry configured to correlate a received signal with a template signal to provide an output signal (see Abstract), a threshold circuitry configured to provide a first pulse signal (see col. 2 lines 36-40).

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Referring to claims 14 and 55, Fullerton teaches signal tends to indicate the time position of a first pulse (see col. 6 lines 54-60, col. 11 lines 1-5).

Referring to claims 15, 23-24, and 56, Fullerton teaches a scanning receiver circuitry (see col. 10 lines 1-7), receiving ultra-wideband signal (see col. 2 lines 29-31).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 16, 25, 42-48, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton in view of Falsetti et al. Referring to **claims 1 and 42**, Fullerton teaches correlating the received pulse with the decode signal to output a baseband signal, which reads on the claimed a correlator circuitry configured to correlate a received signal with a template signal to provide an output signal (see Abstract), a threshold circuitry configured to provide a first pulse signal (see col. 2 lines 36-40). Fullerton does not teach the threshold signal derived from a noise floor, Falsetti teaches calculating the noise threshold (see col. 10 lines 31-34), which reads on the claimed threshold signal derived from a noise floor. It would have been obvious to modify Fullerton's system to include threshold signal derived from a noise floor to be able to detect and discriminate the signal from the noise more accurately.

Referring to claims 2 and 43, Fullerton teaches the claimed the received signal is received via a multipath propagation medium (see col. 10 lines 54- 57).

Referring to claims 3 and 44, it is inherent to have a multiplier circuitry to provide an output signal that comprises the product of the template signal and the received signal (see Abstract, col. 2 lines 36-40), Fullerton teaches including an integrator circuit to integrate the output signal (see col. 2 lines 37-40 44-48).

Referring to claims 4 and 45, Fullerton teaches a comparator circuitry to compare the output signal with the threshold signal (see col. 12 lines 1-7).

Referring to claims 5 and 46, Fullerton teaches signal tends to indicate the time position of a first pulse (see col. 6 lines 54-60, col. 11 lines 1-5).

Referring to claims 6 and 47, Fullerton teaches a scanning receiver circuitry (see col. 10 lines 1-7), receiving ultra-wideband signal (see col. 2 lines 29-31).

Referring to Claims 7, 16, 25, 48, and 57, Fullerton does not teach the threshold signal includes a first number added to the product of a second number and a third number. Falsetti teaches the threshold signal includes a first number added to the product of a second number and a third number (see co. 10 lines 31-34). It would have obvious to modify Fullerton's system to further include the algorithm of Falsetti to calculate the threshold signal to achieve better detection probability.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

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improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 20 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 17 of copending Application No.

09/915,620. Although the conflicting claims are not identical, they are not patentably distinct from each other because "to detect a direct-path pulse in the received plurality of pulses" is not distinct from "to discriminate from a noise floor a first-arriving pulse of the plurality of pulses". Furthermore, detecting a signal require discriminating it from noise factors.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

Claims 8-10, 17-19, 26-41, 49-51, and 58-60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Higgins is cited to show signal detection in a multipath environment.

Fox et al. is cited to show identifying an arrival time of a signal.

Tyler et al. is cited to show correlating the received signal with stored information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam A Alsomiri whose telephone number is 703-305-5702. The examiner can normally be reached on Monday-Thursday and every other Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-306-4171. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-9326 for regular communications and 703-305-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Isam Alsomiri



August 27, 2002



THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600